

# Work Order ID 64701

Tuesday, December 14, 2010 1:11:34 PM

Page 1

Item ID: D2432

Accept

Setup Start

Revision ID:

Stop

Item Name: 206 (24") Bearpaw

Start Date: 12/14/2010 Start Qty: 10.00

Cust Item ID:

Required Date: 12/22/2010 Req'd Qty: 10.00

Customer:

Reference:

Approvals:

Process Plan:

Date: 10/2/14

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2432

Rev F3

120

0.00



FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

Cut Blank as per D2432 File

B10-12-21

130

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Inspect material for defects or damage prior to machining  
2-Machine as per Folio and Dwg D2432 Identify as D2432F  
3-Deburr

SL 11/01/04

B10-12-21

140

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

SL 11/01/04

10

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 64701

Tuesday, December 14, 2010 1:11:34 PM



Page 2

Item ID: D2432

Accept



Setup Start



Revision ID:

Stop



Item Name: 206 (24") Bearpaw

Start Date: 12/14/2010 Start Qty: 10.00



Cust Item ID:

Required Date: 12/22/2010 Req'd Qty: 10.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



| Sequence ID/<br>Work Center ID | Operation<br>Description                    | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 150                            | QC8- Inspect parts - second check           | 0.00                 |         |        |              |               |               |                  |                |
|                                |   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              | 10            | 0             |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |
| 151                            | Identify as per dwg & Stock Location: _____ | 0.00                 |         |        |              |               |               |                  |                |
|                                |   |                      |         |        |              |               |               |                  |                |
| Packaging                      | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Packaging                      |   |                      |         |        |              |               |               |                  |                |
| 190                            | QC21- Final Inspection - Work Order Release | 0.00                 |         |        |              |               |               |                  |                |
|                                |   |                      |         |        |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |

*Pen/1/56*

*OK 11/01/06*

*MF 11-01-06*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, December 14, 2010 1:11:38 PM

Page 1

Work Order ID: 64701



Parent Item: D2432



Parent Item Name: 206 (24") Bearp w


Start Date: 12/14/2010

Required Date: 12/22/2010

Start Qty: 10.00

Required Qty: 10.00

## Comments:

| Component Item ID/<br>Item Name   | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| MUHMWB10<br> |                        | Purchased     | No          |                     |                  | 120             | sf                 | 219.5794       | 3.7         | 37           |               |                |        |
| UHMW 1" Black   |                        |               |             |                     |                  |                 |                    |                |             |              |               |                |        |



B 10-12-21

### Location

### Loc Qty

### Loc Code

MAT

219.5794

114624

5.2734

115325

15.506

115955

38.8

116281

160

116281

(10)

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

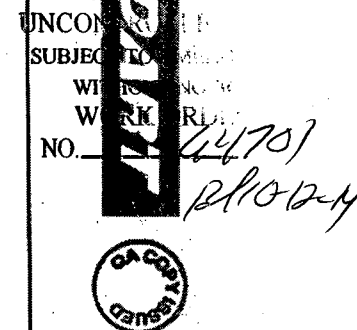
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

|    |          |                               |
|----|----------|-------------------------------|
| F1 | 99.03.03 | ADD DEC 9143                  |
| F2 | 01.03.28 | <del>Ø0.93 WAS Ø0.75</del> RF |
| F3 | 02.01.23 | CLARIFY CORE DIMS RF          |

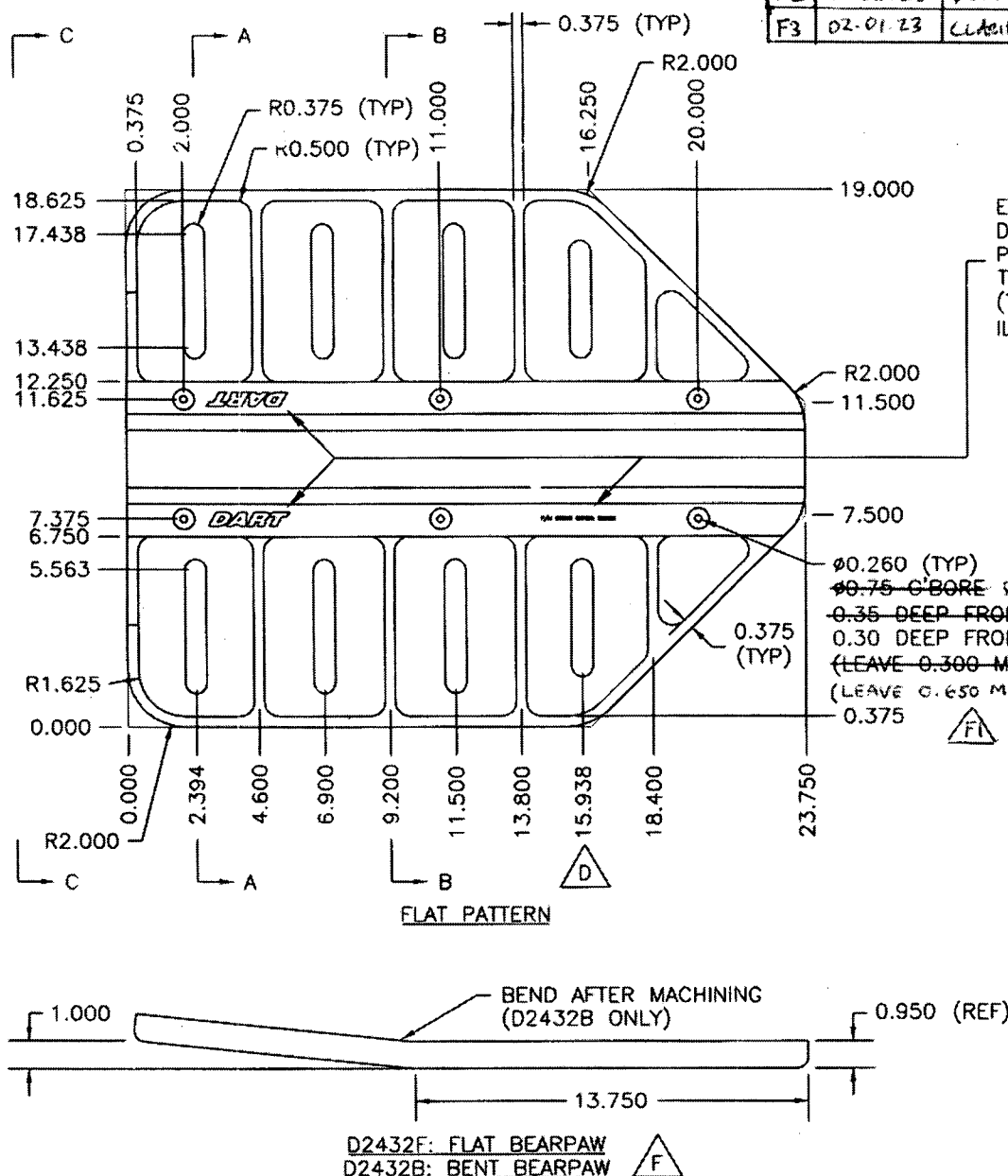
RELEASED  
98.06.12 KE



ENGRAVE LOGO TO MAX DEPTH OF 0.012. ENGRAVE PART AND BATCH NUMBERS TO MAX DEPTH OF 0.010. (TYPICAL LOCATION AS ILLUSTRATED)

| DESIGN   | DRAWN BY | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA | REV. F       |
|----------|----------|---|--------------|
| KE       | KE       |   |              |
| CHECKED  | APPROVED | DRAWING NO.                                       | SHEET 1 OF 2 |
| MM       | KE       | D2432   |              |
| DATE     | TITLE    | SCALE   |              |
| 98.05.12 | BEARPAW  | 1:6   |              |
| A        | 95.10.31 | NEW ISSUE   |              |
| B        | 96.01.24 | RE-DESIGN   |              |
| C        | 96.03.26 | CHANGE BORE AND C'BORE DEPTH                      |              |
| D        | 96.06.04 | MOVE SLOT   |              |
| E        | 97.02.27 | CHANGE C'BORE DEPTH, BORE RADIUS                  |              |
| F        | 98.05.12 | CHANGE C'BORE, ADD B AND F P/N                    |              |

| EFFECTIVE | DEOS |
|-----------|------|
| 9143      |      |



MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689  
1.00 THICK (MACHINE TO 0.950)

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

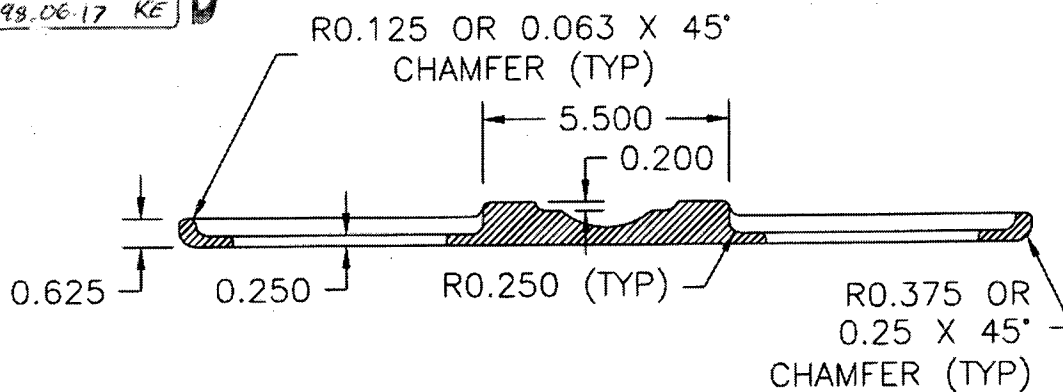




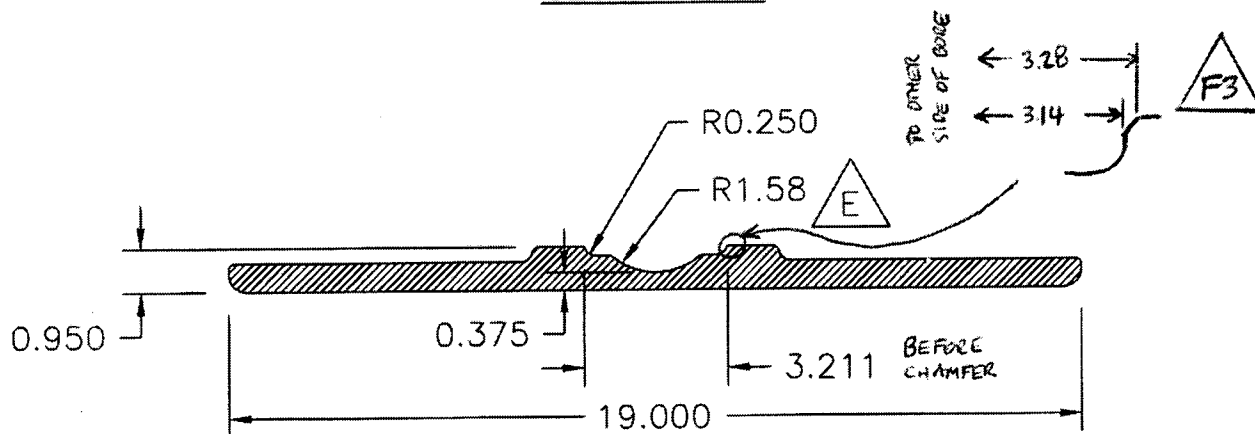
|                        |                         |   |                        |
|------------------------|-------------------------|---|------------------------|
| DESIGN<br>KE           | DRAWN BY<br>KE          | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |                        |
| CHECKED<br>[Signature] | APPROVED<br>[Signature] | DRAWING NO.<br>D2432                              | REV. F<br>SHEET 2 OF 2 |
| DATE<br>98.05.12       | TITLE<br>BEARPAW        |   | SCALE<br>1:4           |

RELEASED  
98.06.17 KE

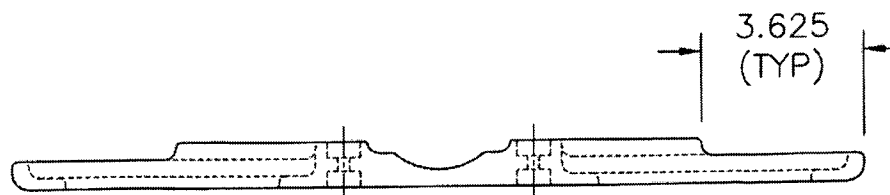
u1064701



SECTION A-A



SECTION B-B



SECTION C-C

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

|   |  |                     |       |
|---|--|---------------------|-------|
| <b>DART AEROSPACE LTD</b>                   |  | <b>Work Order:</b>  | 64701 |
| <b>Description:</b> Bearpaw                 |  | <b>Part Number:</b> | D2432 |
| <b>Inspection Dwg:</b> D2432 <b>Rev:</b> F3 |  | <b>Page 1 of 1</b>  |       |

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article      ☐ Prototype

| Inspection Sheet<br>Drawing Dimension |             | Tolerance     | Actual<br>Dimension | Accept | Reject | Method of<br>Inspection | Comments |
|---------------------------------------|-------------|---------------|---------------------|--------|--------|-------------------------|----------|
| A                                     | 0.063 x 45° | +0.030/-0.010 | 0.063x45°           | ✓      |        | VRN J1-3                |          |
| B                                     | 5.500       | +/-0.030      | 5.505               | ✓      |        | "                       |          |
| C                                     | 0.200       | +/-0.030      | 0.186               | ✓      |        | "                       |          |
| D                                     | 0.25 x 45°  | +/-0.030      | 2.10x45°            | ✓      |        | "                       |          |
| E                                     | R0.250      | +/-0.030      | 0.250               | ✓      |        | R-G                     |          |
| F                                     | 0.250       | +/-0.010      | 0.252               | ✓      |        | "                       |          |
| G                                     | 0.625       | +/-0.030      | 0.620               | ✓      |        | "                       |          |
| H                                     | 0.375       | +/-0.010      | 0.377               | ✓      |        | "                       |          |
| I                                     | 0.950       | +0.030/0.010  | 0.950               | ✓      |        | "                       |          |
| J                                     | 19.000      | +/-0.030      | 19.00               | ✓      |        | m-tape                  |          |
| K                                     | 3.14        | +/-0.030      | 3.150               | ✓      |        | "                       |          |
| L                                     | 3.28        | +/-0.030      | 3.290               | ✓      |        | "                       |          |
| M                                     | Ø0.260      | +0.005/-0.000 | 0.260               | ✓      |        | "                       |          |
| N                                     | Ø0.93       | +/-0.030      | 0.925               | ✓      |        | "                       |          |
| O                                     | 0.30        | +0.030/-0.000 | 0.318               | ✓      |        | "                       |          |
| P                                     | 23.750      | +/-0.030      | 23.750              | ✓      |        | m-tape                  |          |
| Q                                     | 7.375       | +/-0.030      | 7.375               | ✓      |        | VRN CNC-02              |          |
| R                                     | 4.250       | +/-0.010      | 4.250               | ✓      |        | "                       |          |
| S                                     | 2.000       | +/-0.030      | 1.998               | ✓      |        | "                       |          |
| T                                     | 9.000       | +/-0.010      | 9.000               | ✓      |        | "                       |          |
| U                                     | 9.000       | +/-0.010      | 9.000               | ✓      |        | "                       |          |
| V                                     | 0.375       | +/-0.010      | 0.381               | ✓      |        | "                       |          |
|                                       |             |               |                     |        |        |                         |          |
|                                       |             |               |                     |        |        |                         |          |
|                                       |             |               |                     |        |        |                         |          |

|                        |                        |                            |     |
|------------------------|------------------------|----------------------------|-----|
| <b>Measured by:</b> SL | <b>Audited by:</b> M.A | <b>Prototype Approval:</b> | N/A |
| <b>Date:</b> 11/01/03  | <b>Date:</b> 11/01/05  | <b>Date:</b>               |     |

| Rev | Date     | Change                                 | Revised by | Approved |
|-----|----------|--|------------|----------|
| A   | 04.01.09 | New Issue      P/O K10008/D206-559-015 | KJ/RF      | TF       |